16 July 1974

MEMORANDUM FOR: Director of Joint Computer Support

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SUBJECT : ORACLE Review at ███████████ 10 July 1974

1. This is a report on a one-day visit to ███████████ on 10 STATINTL
July 1974 for the purpose of reviewing progress on the ORACLE project.
STATINTL I spoke with ███████ our representative there for ORACLE acceptance
STATINTL testing; ████████████████ project manager; ████████████ the soft- STATINTL
ware manager on the project; and ████████████ Vice President and STATINTL
STATINTL manager of ████████ Advanced Technology Division. I saw demonstra-
tions of ORACLE hardware, including a backfill test.

2. In brief, I believe: (a) the progress of the project is satis-
factory, (b) there are no serious problems requiring Agency action, (c)
the schedule for hardware shipment (December) and acceptance testing
(April) is tight and should be reviewed carefully in early September. It
was clear from the discussions that the team's morale is high and that
everyone is pressing hard to meet project goals. The approach to soft-
ware, hardware, and documentation tasks is professional and businesslike.

3. Hardware - The equipment parts that caused the slip in the
shipment of the initial system have arrived. Hardware manufacturing and
test activity is now focused on preparing the ████████ prototype system for STATINTL
STATINTL delivery to their ████████████ computer site, scheduled for 5 August.
This has taken attention away from the manufacture of the Agency's hard-
ware, which has caused some concern to ████████████████████ To STATINTL
the extent that there is a priority problem, ████████ has chosen the right STATINTL
emphasis; the connection of the IBM hardware to a host computer at ████ STATINTL
STATINTL ███████████ is a major test of the mass storage concept, whereas manufac-
turing additional copies of the hardware will present few new problems, if
any. Both the prototype system assembly and the manufacture of Agency
hardware must proceed without major problems in order to maintain
delivery schedules--there is no cushion. I visited the ████████████ com- STATINTL
puter site. The manager there seems to be as committed to the project
STATINTL as the ████████ people. Must the Agency's hardware assembly fall behind
STATINTL in order to meet the ████████████ needs? I trust ████████████ judgment STATINTL
here. There is one inconsistency: ████████████ said that the manufacturing STATINTL
STATINTL help needed from ████████ audio-visual system division is causing prob-
STATINTL lems, but ████████████ said the hardware tasks of that Division are complete

and the Agency equipment is now in the TBM facility (i.e. the priority question is within that facility, rather than between ████ divisions). The vacuum/compressed air subsystem looks good. I see no problem with the CDC hardware.

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4. Software - I raised three questions with ████████████ STATINTL What procedures are being used to manage the development of ORACLE software? Which modules of the software are critical, which are needed, which are desireable, and what is the status of each category? What needs to be done, if anything, to improve the coordination between the Agency and ████ on their respective software tasks? We spent most of our discussion on the first question. He showed me detailed documentation on each step of what he called "the development process." His explanations and his approach appeared sound. He is attentive to near-term schedules and is tracking the progress of his twelve people closely. Organization problem: He is acting as a first-level supervisor to four programmers until he and ████ find a qualified person. Mr. ████████ definition of the most critical software modules parallels the near-term system goal--to get a prototype ORACLE-host system running at ████████ in early August. The specifications for these modules are frozen and most of the code has been written. Specifications for the other software modules have not yet been frozen: operator communications, file management, job executive, VM executive, security utilities, and MIS. Job executive and file management are being given priority attention; utilities and MIS are being given the lowest priority. Release 1 of the ORACLE software, which will contain (perhaps limited) functions in each of the above areas, is supposed to be defined jointly by 22 July 1974. Regarding the Agency ████ software relationship, Mr. ████████ expressed mild concern about the high visibility we require on his software progress. This was a hint, which I think is justified, that equal visibility might be applied to ORACLE host software and requirements definition--both of which we are responsible for. My general impression of the software effort is that it is being handled well. Two concerns: (a) ████████ is outwardly confident and candid, but I am not sure that he would tell me (or ████████████ when he thought he was getting into trouble. ████████ clearly feels a bit ill at ease with the software side and must rely heavily on his software manager, who has not hit him with his first serious problem yet. For this reason, I emphasized strongly to ████████ that while schedules are important, it was equally important that both the Agency and ████ not be surprised. (b) The Agency has insisted on having the upper hand in ORACLE system specifications. This is a two-edged sword. ████████ is most energetic in software implementation; he is less aggressive on software design. He will give highest priority to that which is well defined. His approach is correct, given our guidance. If we want system specification control, we must carry through on our initiative; he cannot and will not.

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In this regard, I made the point, which I will make to ████████ as well, that if disagreements arise on whether specific capabilities should or should not be included in Release 1 of the software, err on the side of excluding them (with VM excepted; see below). A stable, working, partial system can be built upon.

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5. Documentation and Testing - ████████ is playing an important role at ████████ He has a specific job in system testing and acceptance, but his presence at ████████ has an important side effect on the contractor's approach. He is their reminder that there is a real live customer and that performance is the only acceptable criterion on the contract. He has direct contact with ████████ and free access to their facility and its people. His communications with Headquarters seem satisfactory. His next major milestone is getting an approved document specifying the procedures to be followed in the pre-shipment acceptance test (PSAT) to be held in November. His deadline is 22 July. I learned that a part of this acceptance procedure will be testing by Agency computer operators using operational documentation provided by ████████

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████████████████ agreed that his TDY at ████████ should terminate in December, whether or not any project milestones slip. I did not meet ████████████ who is in charge of documentation, but everyone spoke highly of her. ████████████ respects the job she has and seems to work well with her.

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6. Schedules - ████████ has generated a climate of schedule discipline at ████████ A sign in a corridor that cannot be missed reads " _____ working days to 2 August" -- the Friday before the prototype system is to be shipped to the host computer site. Two other important dates prior to the PSAT are 22 July (Release 1 software specifications, PSAT document approved, and an ████ statement on their confidence level on meeting PSAT and shipment dates) and the first week in September (critical design review). The principal risk in meeting the November PSAT and/or the December shipment, in ████████ judgment, is system testing. He believes that the hardware components individually will be ready, that the critical software elements will be ready, but that there is a bare minimum time available in the schedule now for testing the system as a whole. Evidence of his concern was the pessimistic view he had on getting started with the VM interface. Much of the design work on CP is transferable, ████████████ has a good scheme planned for VM, I emphasized the vital importance of the VM interface, yet ████████ is hesitant. His caution probably will not abate until he has solid evidence that the system concept works. This is his preoccupation.

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7. Conclusions

A. We should proceed on the assumption that the current schedule is valid and will be met. To do otherwise may result in a self-fulfilling prophecy.

B.   To show our good faith, we should vigorously pursue our obligations in generating design requirements in all areas and in host software development. Our people should be ready when ███████asks   STATINTL questions; we should ask them of ourselves if they do not. In short, we should continue to <u>demonstrate</u> the importance of the job ██████is doing   STATINTL for us.

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cc: C/SED

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